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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,080	01/09/2002	Richard D. Taylor	10010388	7522

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EXAMINER

DUNCAN, MARC M

ART UNIT PAPER NUMBER

2113

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/044,080

Applicant(s)

TAYLOR ET AL.

Examiner

Marc M Duncan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

FINAL REJECTION

Status of the Claims

Claims 1, 3-8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Nadir et al.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nadir in view of Whittaker.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Nadir et al.

Regarding claim 1:

Nadir teaches providing a read request to a system memory associated with the cache memory, the read request correlating to an entry in the tag memory and the data store in Fig. 4A "200" and col. 8 lines 62-65.

Nadir teaches checking the parity bit associated with the correlated entry in the tag memory and the parity bit associated with the correlated entry in the data store in Fig. 4A, Fig. 4B and col. 2 lines 65-67. The valid bit for the data store entry is equivalent to a parity bit because Nadir teaches that the validity of the data is determined using parity in col. 2 lines 65-67.

Nadir teaches if either act (a) or act (b) indicates an error in the corresponding correlated entry, declaring a miss Fig. 4A and Fig. 4B.

Nadir teaches invalidating the correlated entry in the data store if a miss is declared in act (c) in col. 9 lines 18-20 and lines 46-49.

Regarding claim 4:

Nadir teaches checking the parity bit associated with the correlated entry in the tag memory in Fig. 4B and col. 9 lines 42-45.

Nadir teaches if the parity bit associated with the correlated entry in the tag memory indicates no error: determining if the correlated entry in the tag memory indicates a hit in Fig. 4B.

Nadir teaches if there is a hit, checking the parity bit associated with the correlated entry in the data store in Fig. 4A and 4B and col. 5 line 67-col. 6 line 3.

Regarding claim 5:

Nadir teaches if the parity bit associated with the correlated entry in the data store indicates no error, retrieving the correlated entry from the data store in Fig. 4B "236." Continuing with normal processing after the hit is declared and all parity and validity are determined inherently includes retrieving the correlated entry from the data store.

Regarding claim 6:

Nadir teaches wherein the retrieving the correlated entry from the data store act comprises retrieving the data line containing the correlated entry in Fig. 4B "236."

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Continuing with normal processing and retrieving the data inherently includes retrieving the data line containing the correlated entry.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nadir in view of Whittaker.

Regarding claim 2:

The teachings of Nadir are outlined above.

Nadir does not explicitly teach the cache being a second level cache. Nadir does, however, teach a cache memory.

Whittaker explicitly teaches a second level cache in Fig. 1.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the second level cache of Whittaker with the cache of Nadir.

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One of ordinary skill in the art at the time of invention would have been motivated to combine the teachings because the use of a second level cache reduces the miss penalty, which meets and expressed need of Nadir, namely, accessing the cache and retrieving data in the shortest possible time span.

Response to Arguments

Applicant's arguments filed 10/15/04 have been fully considered but they are not persuasive.

In response to applicant's arguments concerning claim 1, the examiner respectfully disagrees. As admitted by applicant, Nadir teaches invalidating a cache line for tag parity errors. The claim is presented in the alternative. Nadir reads on the situation where a cache line is invalidated for tag parity errors by applicant's own admission and therefore reads on the claim. The rejection is maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc M Duncan whose telephone number is 571-272-3646. The examiner can normally be reached on M-T and TH-F 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

md


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